REMARKS

Reconsideration and withdrawal of the rejection set forth in the above-mentioned Official Action in view of the foregoing amendments and the following remarks are respectfully requested.

Claims 1, 6, 9 and 10 are now pending in the application, with Claims 1 and 10 being independent, and having been amended herein.

Claims 1, 6, 9 and 10 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,079,809 (Yaegashi et al.) in view of U.S. Patent Application Publication No. 2002/0030716 (Watanabe et al.). This rejection is respectfully traversed.

As recited in independent Claim 1, the present invention relates to an ink jet printing apparatus that forms an image by ejecting ink from a print head, in which a plurality of ejecting portion rows are arranged, to a print medium, each of the ejecting portion rows having a plurality of ejecting portions arranged therein. The apparatus includes a carriage that scans the print head, preliminary ejecting means for ejecting the ink from the ejecting portions in the print head such that the ejection is not involved in formation of the image, and a preliminary ejection receiver enabling to receive the ink ejected from the plurality of ejection portion rows by the preliminary ejecting means while the carriage is not performing a scanning operation. The ejecting portion rows are arranged in a scanning direction of the carriage, and the ejecting portions are arranged in each row in a direction transverse to the scanning direction. The preliminary ejecting means

sequentially selects one of the plurality of ejecting portion rows as an ejecting portion row on which an ejecting operation is performed, while the carriage is not performing the scanning operation in a state in which the plurality of ejecting portion rows are stopped at a position opposite to the preliminary ejection receiver, every time a preliminary ejection is completed by the selected ejecting portion row, another ejecting portion row is selected to perform the preliminary ejection, and in the preliminary ejection for the selected ejecting portion row, the ejection, which is not involved in formation of the image, is carried out for all the ejecting portions arranged in the selected ejecting portion row.

As recited in independent Claim 10, the present invention relates to a preliminary ejecting method executed using an ink jet printing apparatus that forms an image by ejecting ink from a print head, in which a plurality of ejecting portion rows are arranged, to a print medium, each of the ejecting portion rows having a plurality of ejecting portions arranged therein, the ink being ejected from the ejecting portions in the print head to a preliminary ejection receiver such that the ejection is not involved in formation of the image, the print head being mounted on a carriage for conveying the print head. The method includes a step of sequentially selecting one of the plurality of ejecting portion rows as an ejecting portion row on which an ejecting operation is performed and then subjecting the selected ejecting portion row to preliminary ejection, wherein in the preliminary ejection for the selected ejecting portion row, the plurality of ejecting portion rows are stopped at a position opposite to the preliminary ejection receiver, and the ejection, which is not involved in formation of the image, is carried out for all the ejecting

portions arranged in the selected ejecting portion row. The method further includes a step of, every time a preliminary ejection is completed by the selected ejecting portion row, selecting another ejecting portion row to perform the preliminary ejection. The ejecting portion rows are arranged in a scanning direction of the carriage and the ejecting portions are arranged in each row in a direction transverse to the scanning direction.

With the above arrangement and method, a generated air current from a particular nozzle row can be prevented from colliding against preliminary ejections from other nozzle rows. As a result, little mist will reach the surfaces of the recording head and desired colors can be printed without unintended ink color mixture. Note the specification at page 20, lines 23 and 24 and page 21, lines 20 and 21.

In the ink jet recording apparatus and method of Yaegashi et al., the recording head is cleaned by performing steps of capping, suctioning, wiping and preliminary discharge. In one embodiment, preliminary discharge is performed in a sequence of 1) all the nozzles of an array, 2) just the end nozzles, 3) all the nozzles, 4) the end nozzles and 5) all the nozzles for each of the color arrays. Alternatively, preliminary ejection of the black array can be performed separately from the other color arrays. In another embodiment, the pressure in an ink tank corresponding to each color array is determined and the inks are predischarged sequentially from the array having one extreme pressure to the array having another extreme pressure.

However, it cannot be said that Yaegashi et al. teaches ejecting portion rows arranged in a scanning direction of a carriage and ejection portions are arranged in each row in a direction transverse to the scanning direction, as is recited in independent Claims 1 and 10. Moreover, Yaegashi et al. does not disclose or suggest sequentially selecting one of the plurality of ejecting portion rows as an ejecting portion row on which an ejecting operation is performed, while a carriage is not performing a scanning operation in a state in which the plurality of ejecting portion rows are stopped at a position opposite to a preliminary ejection receiver, every time a preliminary ejection is completed by the selected ejecting portion row, another ejecting portion row is selected to perform the preliminary ejection, and in the preliminary ejection for the selected ejecting portion row, the ejection is carried out for all the ejecting portions arranged in the selected ejection portion row, as is recited in independent Claim 1. Nor does Yaegashi et al. disclose or suggest selecting one of the plurality of ejecting portion rows as an ejecting portion row on which an ejecting operation is performed and then subjecting the selected ejecting portion row to preliminary ejection, wherein in the preliminary ejection for the selected ejecting portion row, the plurality of ejecting portion rows are stopped at a position opposite to a preliminary ejection receiver, and the ejection is carried out for all ejecting portions arranged in the selected ejecting portion row, and, every time a preliminary ejection operation is completed by the selected ejecting portion row, selecting another ejecting portion row to perform the preliminary ejection, as is recited in independent Claim 10. Rather, in Yaegashi et al., preliminary ejection from all nozzles and preliminary ejection

from a portion of the nozzles are performed by turn until the preliminary ejection operation for a certain nozzle row is completed.

Thus, Yaegashi et al. fails to disclose or suggest important features of the present invention recited in independent Claims 1 and 10.

Watanabe et al. was cited for teaching an ink jet recording head in which color nozzle rows are arrayed in parallel in the carriage scanning direction. However, Watanabe et al. is not believed to remedy all the deficiencies of Yaegashi et al. noted above with respect to the independent claims.

Accordingly, independent Claims 1 and 10 are patentable over the citations of record. Reconsideration and withdrawal of the § 103 rejection are respectfully requested.

For the foregoing reasons, Applicants respectfully submit that the present invention is patentably defined by independent Claims 1 and 10. Dependent Claims 6 and 9 are also allowable, in their own right, for defining features of the present invention in addition to those recited in independent Claim 1. Individual consideration of the dependent claims is requested.

This Amendment After Final Rejection is an earnest attempt to advance prosecution and reduce the number of issues, and is believed to clearly place this application in condition for allowance. This Amendment was not earlier presented because Applicants earnestly believed that the prior Amendment placed the subject application in condition for allowance. Accordingly, entry of this Amendment under 37 CFR 1.116 is respectfully requested.

Applicants submit that the present application is in condition for allowance. Favorable reconsideration, withdrawal of the rejection set forth in the above-noted Office Action, and an early Notice of Allowability are requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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